

What the invention claims is:

2. A transmitter for a wireless transmitter-receiver system wherein the transmitter is coupled to audio equipment to transmit an audio signal therefrom comprising:

an automatic audio level regulating circuit comprised of an audio regulating IC, having an input terminal adapted to be connected to the output terminal of said audio equipment to regulate the audio level of an output signal from said audio equipment to a predetermined range, and an output terminal;

a signal processing circuit having an input terminal connected to the output terminal of said automatic audio level regulating circuit, and an output terminal;

an (external and internal) dual adjustable oscillatory frequency regulating circuit comprising an oscillator transistor, and dielectric resonator, a first variable capacitor, a second variable capacitor diode, an input terminal connected to the output terminal of said signal processing circuit, and an output terminal; a first intermediate frequency output being at least about 10MHz adjusted by said first variable capacitor.

an inductance antenna connected to the output terminal of said (external and internal) dual adjustable frequency regulating circuit, said inductance antenna being a matching device; and

a power control circuit controlled by the output signal of said audio equipment to provide the necessary working voltage to said transmitter unit, said power control circuit comprising a

signal amplifier, a comparator and a transistor switch, so that when said signal amplifier receives an input signal from said audio equipment it drives said comparator and transistor switch permitting the connection of an external power supply or battery supply to said transmitting unit.

3. The invention of claim 2 wherein said transmitter unit can be used in a wireless audio transmitting and receiving system, or wireless microphone transmitting system.

4. The invention of claim 2 wherein said automatic audio level regulating circuit comprises an electrical regulating IC, having an input terminal adapted to be connected to an output terminal of said audio equipment to regulate the audio level of the output signal of said audio equipment to a predetermined range, and an output connected to said signal processing circuit.

5. The invention of claim 2 wherein said signal processing circuit has an input terminal connected to the output terminal of said automatic audio level regulator, and an output terminal connected to said (external and internal) dual adjustable oscillatory frequency regulating circuit.

6. The invention of claim 2 wherein said signal processing circuit comprises a 3-dimensinal signal multi-regulating circuit through which +/- 19KHz pilot signals can be regulated and tranmitted to said (external and internal) dual adjustable oscillatory frequency circuit.

7. The invention of claim 2 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit comprises an oscillatory transistor, a dielectric resonator, a first variable capacitor and a second variable capacitor diode, having an input terminal connected to the output terminal of said signal processing circuit, and an output terminal connected to said inductance antenna.

8. The invention of claim 7 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit comprises a first variable capacitor which is internally adjustable.

9. The invention of claim 7 wherein said second variable capacitor diode is externally adjustable by users through frequency controller VR1.

10. The invention of claim 7 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit has a first intermediate frequency output of at least 10MHz and is adjustable by said first variable capacitor.

11. The invention of claim 7 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit includes a : (a) variable resistor (b) variable capacitor, (c) variable electrical sensor or above mentioned combination of (a) (a), (b) (b), (c) (c), (a) (b), (b) (c), (a) (c).

12. The invention of claim 2 wherein said inductance antenna is connected to the output terminal of said (external and internal) dual adjustable oscillatory frequency regulating circuit, said inductance antenna being a matching device.

13. The invention of claim 12 wherein said inductance antenna provides stable and non-floating wireless audio signals to the receiver unit.

14. The invention of claim 2 wherein said power control circuit is controlled by the output signal of said audio equipment to provide the necessary working voltage to said transmitter unit.

15. The invention of claim 14 wherein said power control circuit comprises a signal amplifier, a comparator and a transistor switch said signal amplifier adapted to receive an input signal from said audio equipment, said comparator and transistor switch connecting an external power supply or battery supply and said transmitter unit.

16. The invention of claim 14 wherein said power control circuit is controlled automatically and manually.

Sub A13
17. The invention of claim 2 wherein said transmitter unit processes an audio signal input in stereo.

18. The invention of claim 2 wherein said transmitter unit further comprises a special noise blocking system for direct connection to a television, compact disc player, automobile audio system or center speaker without interference.

Sub A14
19. The invention of claim 2 wherein said transmitter unit can be used with a plurality of receiving earphones simultaneously.

20. A receiver for a wireless transmitter-receiver system wherein the transmitter is coupled to audio equipment to transmit an audio signal therefrom through an inductance antenna comprising:
a receiving antenna to receive an audio signal transmitted from an inductance antenna of said transmitter unit.

an (external and internal) dual adjustable oscillatory frequency regulating circuit comprising an oscillatory transistor, a dielectric resonator, and a variable capacitor and a variable capacitor diode, an input terminal connected to the output terminal of said receiving antenna, and an output terminal;
a signal processing circuit connected to said (external and internal) dual adjustable oscillatory frequency regulating circuit to process received signals and to provide a processed signal to said earphone.

an automatic 24-time frequency divider circuit comprising a resistor and an oscillator, connected to an IC of said receiver signal processing circuit to divide the frequency of said received signal by 24, so as to provide a 19KHz three-dimensional demodulated signal; and

an auto-shut off circuit comprising an IC and a transistor, said transistor being controlled by said IC to turn a power supply on/off.

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21. The invention of claim 20 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit comprises an oscillatory transistor, a dielectric resonator, a first variable capacitor and a second variable capacitor diode.

22. The invention of claim 21 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit has an input terminal connected to the output terminal of said receiving antenna, and an output terminal connected to said signal processing circuit.

23. The invention of claim 21 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit includes a frequency controller VR1 adjustable externally by users.

24. The invention of claim 21 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit has a first intermediate frequency at least above 10MHz.

frequency regulating circuit has the capability to broadly adjust the frequency, and to downconvert

25. The invention of claim 21 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit provides a local oscillatory frequency that can be broadly adjusted without a conventional SAW and which fixes the first local oscillatory frequency and adjusts the second local oscillatory frequency.

26. The invention of claim 21 wherein said (external and internal) dual adjustable oscillatory frequency to at least about 10MHz.

27. The invention of claim 20 wherein said signal processing circuit is connected to said external and internal dual adjustable oscillatory frequency regulating circuit.

28. The invention of claim 27 wherein said signal processing circuit is capable of processing received signals and providing processed signals to said receiver unit.

29. The invention of claim 27 wherein said signal processing circuit within which the second local oscillation is adjustable by users or consumers to switch channels.

30. The invention of claim 27 wherein said signal processing circuit is capable of demodulating stereo audio signals to provide high fidelity 19KHz multi-demodulating signals.

31. The invention of claim 20 wherein said auto-shut off circuit is comprised of an integrated circuit and transistors, said auto-shut off circuit being controlled by the IC of said auto-shut off to automatically turn an external power supply or battery supply on and off.

32. The invention of claim 31 wherein said auto-shut off circuit can automatically turn on said receiver unit when it receives an audio signal and automatically turn off said receiver unit when it receives no audio signal.

33. The invention of claim 20 wherein said receiver unit consists of integrated circuits and transistors.

34. The invention of claim 21 wherein said (external and internal) dual adjustable oscillatory frequency regulating circuit includes a (a) variable resistor, (b) variable capacitor, (c) variable electrical sensor or above mentioned combination of (a) (a), (b) (b), (c) (c), (a) (b), (b) (c), (a) (c), coupled with a fixed electric resonator, electric capacitor, inductor, dielectric resonator, transistor, mixer and IC to produce a downconverter.

35. The invention of claim 20 wherein said receiver unit is housed in an earphone.

36. The invention of claim 20 wherein said receiver unit can be used in a wireless audio receiving speaker, and wireless microphone.

37. The invention of claim 21 wherein said receiver unit, being wireless, can be positioned or relocated from place to place by users.